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CLINICAL LECTURE.

PURPURA SIMPLEX.—DIAGNOSIS OF GASTRIC DISORDERS.

BY JOHN H. MUSSER, M. D.,

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Gentlemen: I will change the regular order of my series of lectures, so that I may present to you a case of some interest, the features of which are ripe for illustration. I will preface my remarks by saying that the different cases I had before you last week are in about the same condition as then. The woman with ascites, who was suffering with severe abdominal pains, has been relieved by the use of codeia, which Dr. Lauder Brunton has found to be a remedy of extreme value in cases of abdominal pain. Opiates constipate, and in the large majority of instances of abdominal disease it is not desirable to produce constipation, and therefore codeia, which does not possess this property along with its analgesic property, may be used. It is given in doses of one-quarter of a grain every three hours. Brunton's method is to begin with small doses, gradually increasing the size, until the patient is relieved of pain. One and a half to two grains may be given every one, two or three hours in the most urgent cases of pain, as in carcinoma, entire relief ensuing. Even the pain of peritonitis may be thus treated, where it is especially desirable to avoid the use of opiates.

Purpura Simplex.

I wish to call your attention now to the appearance of this patient's legs. Yesterday and the day before the eruption with which they are covered was more brilliant than it is to-day. He states that three weeks ago,

¹ Delivered at the Philadelphia Hospital.

after a fall (which was merely a coincidence), he noticed some spots on his legs similar to these, but not so extensive. He was admitted to the house three days ago, when, in addition to the rash which was confined to the limbs, he was complaining of pain in his joints, and particularly in the right knee, which was quite tender on pressure. On examining the rash we find that it does not disappear on pressure, and that the surface of the skin is smooth. In other words, the appearance is due to ecchymoses or subcutaneous hemorrhages; and it is a case of purpura. Purpura is a general term for a disease and a symptom, and its presence may be due to quite a number of pathological antecedents. Thus it is a common manifestation of scurvy. It is of most common occurrence in the blood affections, as in the later stages of Hodgkin's disease, and in leucocythemia. It also occurs and has been described in general malignant sarcoma, in septic or ulcerative endocarditis, and in the grave fevers. As a disease, it is known by two or three different terms. Thus we have simple purpura, or purpura simplex; then there is purpura rheumatica, which is accompanied by rheumatoid symptoms; and the graver form, known as purpura hemorrhagica, or "morbus maculosus Werlhofii." In studying the patient before us, we must endeavor to ascertain whether his is a case of symptomatic or of true purpura. From our examination of him, and from the history which he gives, we may at once exclude malignant sarcoma, leucocythemia, the anemias and diseases of the endocardium, the organs usually involved in these affections being free from disease. Scurvy, a very common condition, the cause of which is familiar to us all, is usually found in sailors who have been long at sea upon a limited diet; but at times it is seen in isolated cases on land, or in the form of epidemics in institutions such as this.

Is this a case of scurvy? In the first

place this patient has not been in any institution, and he is not a sailor, nor has his mode of living and particularly his class of food been such as to have produced scurvy. Then scurvy is usually associated with clinical features which are not present in this case. It is a slow disease, while this man's trouble developed suddenly. Then, in scurvy the patient is emaciated, weak, and pallid, presenting a cachectic appearance, with poor circulation, bluish lips, dusky cheeks, small and feeble pulse, and weakness of the heart's action. These usually appear before there are any outward manifestations of the disease. Then follows an inflammation of the gums, their margin becoming the seat of redness and ulceration. They recede from the teeth, and are soft and spongy, bleeding easily. The mouth itself is very sore. This condition of the gums is not present where teeth are missing, and infants when suffering from scurvy never present this affection of the gums. At the same time with this change in the gums subcutaneous hemorrhages occur. At first these are bright, rarely so large as this man shows, and they have the characteristic of developing around the hair follicles, and therefore present a papular feel. This is an anatomical distinction between the purpura of scurvy and simple purpura. This papular sensation may be felt in hemorrhages due to infarcts. The eruption of scurvy does not appear so suddenly, and become uniform so rapidly as does that of simple purpura. In the latter disease the patient will be ill and complaining for two or three days, and then in a few hours the rash will appear, in cases of rheumatic purpura often covering the whole body. On the other hand prolonged failure of health with a gradual onset of the eruption is characteristic of scurvy. In scurvy there is a brawny induration of the muscles, due probably to hemorrhages into their tissues, which is not present in this case. In scurvy there is a quite marked oedema, and the general nutrition of the skin is poor, it being dry and scaly.

This patient shows none of these symptoms as you well see, we may therefore exclude the presence of scurvy. We find on examination some pain, with tenderness in the joints. This is a symptom present in most forms of purpura, and is due to hemorrhage in the synovial membrane. In the rheumatic forms it is often very severe, and is accompanied by stiffness and swelling of the joints.

There are other eruptions, due to the exhibition of drugs which are very similar to that of purpura. Potassium iodide, for instance, in large doses produces an eruption, which is not confined to the limbs, however, but appears all over the body, particularly over the trunk, and which curiously enough often is very painful and tender. A rash also develops in the administration of copaiba. I recall one or two instances where the patients were much alarmed by the sudden development of a purpuric rash after they had been taking copaiba. A scarlatineal rash also often follows the administration of this drug. The drugs mentioned are most liable to be followed by subcutaneous hemorrhages, and as they are often taken secretly for obvious reasons, the fact should be borne in mind. This patient says that the rash intermits, one crop fading away only to be followed by another. This peculiarity is found more particularly in purpura than in scurvy, where the rash is a persistent one. From all of the symptoms I have given to you, I believe that this is a case of simple purpura, notwithstanding the presence of the pain in the joints. This, I believe, would be more severe, were it a case of rheumatic purpura.

Purpura sometimes develops very curiously. For instance, a case occurred in my practice not very long ago, of a middle aged woman who was suffering with severe and repeated hemorrhages from her stomach. There was no evidence of malignant disease of the stomach, nor any symptom of gastric ulcer. The cause of this repeated and persistent hemorrhage was obscure. I washed out the stomach and examined the gastric secretion, but with negative results. The patient soon became exhausted. Hysterical hemorrhages were eliminated. Finally, subcutaneous hemorrhages were noticed, and then general hemorrhages upon the mucous membranes, and death soon followed from a large hemorrhage behind the peritoneum, filling up the space as far as the diaphragm. No organic disease was discovered at the autopsy. The hemorrhage from the stomach took place from a minute ulcer at the gastric end of the œsophagus. The lesson taught by this case is the necessity of suspecting the existence of purpura in cases of hemorrhage arising from no recognizable cause.

Diagnosis of Gastric Disorders.

I wish now to continue our study of some gastric conditions. The patient I had

before you at the last clinic, you remember showed progressive emaciation, while on physical examination we could determine a tumor in the left hypogastrium and presumably attached to the stomach. He presented some dyspeptic symptoms, but there was no pain or tenderness, no vomiting, no hemorrhage. To determine whether or not organic disease exists, certain methods, largely chemical in their nature, are employed. By means of these we are able to determine the ability of the stomach to digest, and the motor power of the stomach, and to discover whether there is the necessary acid present in the gastric juice. You remember I showed you, by means of the administration of salol, that the motor activity of the stomach was lessened. Instead of appearing in the urine in one hour after its administration, which it would have done had the motor power of the stomach been up to the normal, three and a half hours elapsed before its appearance. These tests determine whether there is a functional or an organic disease of the viscus present, and thus far we had ascertained that this organic disease was present, namely, a reduction in the muscular power of the organ.

Next we must examine the gastric juice for the presence of hydrochloric and lactic acids. Hydrochloric acid in large quantity is as much indicative of organic disease as is its absence pathognomonic of carcinoma of the stomach. There are several methods by which the hydrochloric acid is found in the stomach. We must first secure some of the juice. A trial breakfast is given, and in three hours the secretion is taken from the stomach. Formerly the vomited matter was used, but so many disturbing factors were found to be present that a sufficiently accurate reaction could not be obtained. At present the secretion is withdrawn by the stomach-pump, or by means of the syphon alone, when digestion is at its height, normally in three hours after the administration of food. We first determine its reaction, whether acid or alkaline. We then determine which acid is present, hydrochloric or lactic. There are two methods of testing for the presence of lactic acid. The one is very complicated and the other simple, the so-called *Uffelmann's test*. In this we use a four per cent. solution of carbolic acid, to which a few drops of neutral ferric chloride is added, producing a steel-blue liquid. A few drops of gastric juice

added to this discolorizes the solution, if hydrochloric acid be present. If lactic acid be present, it produces a yellow coloration, and if it is in excess, a reddish yellow. If lactic acid alone is present, a greenish tint will be produced. In examining for hydrochloric acid we may employ the methyl violet and the gentian violet methods. The former gives a greenish blue coloration, if the acid be present.

This man's gastric juice has been examined, and shows a minimum amount of hydrochloric acid. Even yet we cannot decide positively that carcinoma is present, though the association of a diminution in the muscular power, and the diminution in the amount of hydrochloric acid shows that some grave organic trouble of the stomach is present. In grave gastric catarrh there is also a diminution in the amount of this acid, but there would also be more marked symptoms in that condition than are here present. I fear there is grave malignant disease here.

Carcinoma is a local disease affecting either the cardiac or pyloric ends of the stomach, or either curvature. It is not the cancer by itself which causes the symptoms, but they are determined to the localization of the disease, hence the symptoms vary with the position of the growth. It may occur in the lesser curvature without any symptom being observed. Pain is a general symptom of cancer, depending upon whether there is an obstruction or a localized peritonitis. It may be altogether absent if the ulceration be slight. Hemorrhage may also be absent if the growth be not especially vascular. Thus we may have cancer of the stomach existing without any of its cardinal symptoms. Emaciation and cachexia are always present, the cause of the latter, however, not being known. It is thought to be due to an involvement of the liver; but we find it where the liver is not affected. Understanding, then, how carcinoma may exist without its presence even being suspected, or discovered until it is revealed at the autopsy, it is important that the chemical means I have mentioned be resorted to, to aid us in making a diagnosis in obscure cases.

—Oil of sandal wood was first employed by the Chinese, and they as well as the Hindoos give preference to that produced at Mysore. This variety has been found best by European practitioners also.

COMMUNICATIONS.

DENGUE FEVER.¹

BY ALBERT J. HAHN, M. D.,
NEWARK, N. J.

About five years ago, to effect a change of climate, I went to Texas, and it was but a short time after the re-establishment of my Penates in their proper place, that the member of my family for whose benefit the change had been made was taken ill. General malaise of a few hours' duration was followed by an alternation of chilly shudderings and flashes of heat, a certain amount of stiffness and pain in the muscles of the occipito-spinal region and sacrum, and more severe pains in the joints.

I attributed the ailment partly to a process of acclimatization and partly to the influence of malarial miasmata, gratuitously bestowed upon the new-comer by a little lazily running brook, whose banks were beautifully covered by fig-trees, banana-plants, gigantic reeds, and a great variety of luxuriant exotic plants and weeds; and I treated the case as mainly malarial in its aspect, although my efforts in that direction were not as successful as I had expected.

A few days later I was called to a cottage only a few hundred yards distant on the other side of the brook, by the natives euphoniouly called river, because it contained a little water, which is more than can be said of most Texas rivers. I had hardly entered the house and been made acquainted with my patient, when she informed me she had the dengue, and wished me to relieve her at once of those horrible pains in the joints. I was momentarily perplexed. Here was a patient; she had made her own diagnosis, and I did not dare to contradict, in fact I readily and quietly assented. Since the final review for graduation-examinations of my text-book, in which dengue occupied the very tail-end, I had not been reminded of its existence until I was now suddenly and unexpectedly confronted with its reality for the first time—or rather the second, for the first time in my family I had not recognized it.

The term dengue has been applied to an acute febrile condition, accompanied by an eruption, lasting from five to eight days, and occurring in hot climates. The name

¹ Read before the Practitioners' Club.

"dengue" is said to be derived from the Spanish "Dunga," a corruption by the Cubans of the term "Dandy" fever, which latter appellation the affection received from the English negroes at St. Thomas, on account of the peculiar stiff gait of those attacked by the disease. Different writers, however, gave the fever different names, according to their individual real or fancied impression as to cause, prominent symptoms, or locality where it occurred or whence it was imported. Thus we have as the more prominent ones the synonyms of: African fever, Aden fever, Arabian fever, scarlatina rheumatica, break-bone fever, giraffe fever, eruptive epidemic fever of India, etc., etc. Dengue has occurred epidemically and sporadically in India, Persia, Arabia, Egypt, the West Indian Islands, and North and South America; but its history can be traced only to the latter part of the 18th century. The first description of the disease is by Dr. Rush, of Philadelphia, of the epidemic of 1780. Dr. Aitkens records the epidemic at Calcutta in 1824, in which but few persons out of half a million escaped the affection. In 1827 an epidemic broke out in St. Thomas, and after having given a test of its powers to every inhabitant, it visited successively the various islands of the West Indies, and came the following year to the United States, where it raged epidemically throughout the South, and sporadically as far North as New York and Boston, where many cases occurred. This epidemic was most accurately described by Dr. Samuel Henry Dickson, of Charleston, S. C. In 1850 an epidemic visited the Southern States which was well described by Drs. Wragg, of Charleston, S. C., and H. F. Campbell, of Augusta, Ga. Again in 1873 an epidemic visited the Gulf States, at which time in New Orleans fully 40,000 people were affected by the disease within a few weeks. The most recent and widespread epidemic was that of 1880. It covered all the Southern States of North America. At the same time the fever broke out at Cairo, whence it spread all over Egypt.

To trace, however, definitely the source of the latter epidemic in this country has proved a failure. To prove the origin of dengue fever has also been unsuccessful. All agree that dengue greatly depends upon climate, seasons and atmospheric conditions; all agree that dengue is an infectious fever; but whether it is also contagious in character the historians upon the various epidemics

leave, by virtue of their totally diversified opinions, an entirely unsettled question.

Dengue, as a rule, makes its appearance abruptly, although a general malaise of a very short duration may initiate the fever. The person may enjoy the very best of health, when suddenly severe frontal headache, aching of the eyeballs, nausea, chilliness, with occasional flashes of heat, and pains in the limbs, set in. There is rarely a distinct chill, but more often chilly shudderings passing down the muscles of the spine. The cephalalgia is intense, and soon the muscles of the occipito-spinal region become stiff, and the pains in the joints, resembling those of articular rheumatism, reach their highest point of intensity with the height of the pyrexia. The temperature ranges from 101° to 106° , and proportionate is the general suffering of the patient. The pulse, bounding and full, runs from 90 to 140 per minute. The very height is usually reached at the end of the first twenty-four hours; after which time the disturbance of the temperature and pulse, and the other symptoms, gradually decline, manifesting, however, in the evening of each day a slight aggravation over the conditions of the morning. In addition to the above symptoms, hemorrhagic tendencies are manifest, such as epistaxis, and bleeding from the gums and rectum, and, in severe cases, hematuria and hemoptysis. Glandular enlargements are very common. The glands most commonly affected are the lymphatic glands in the groin, axilla and neck; and these enlargements are apt to continue for weeks and even months after disappearance of the dengue. Anorexia is the rule, and often there is general gastric disturbances, gastralgia, vomiting and diarrhoea, and jaundice; in the latter half of the disease when the pyrexia has commenced to decline, an eruption makes its appearance on various parts of the body. It may resemble erythema, lichen, rubeola, urticaria, etc., but more commonly it resembles the rash of scarlatina. Desquamation follows in some cases after the lapse of a few days. Insomnia may be an annoying and persistent symptom.

An attack of dengue lasts from five to eight days, and, while in some cases the patient may feel just as well immediately after the attack, in most cases the effects will be felt for weeks thereafter. The pains in dengue are of such a severe nature, that the disease has been termed the sum total of human misery; but cases of an exceedingly

mild character in all its symptoms are not wanting. Relapses occur occasionally after the second or third week; but these are usually of a mild type and brief in duration.

As dengue is an entirely non-fatal disease, its pathology is wholly unknown, and its prognosis is always favorable, except in the very feeble ones at the extremes of ages, the exceedingly young or very old; for dengue excepts no age or sex. When death does occur, it is always due to some fatal complication, such as severe hemorrhage, convulsions, abortion or some intercurrent disease.

When we attempt to describe the differential diagnosis of dengue, we are in the first place confronted with yellow fever; for these two have, besides the climate and localities, various features and characteristics in common, so much so in fact that the unicists here—as in the case of diphtheria and membranous croup—have among their advocates, ever since Dr. Osgood, in 1828, promulgated this theory of unity, counted some of the most reputable physicians who had obtained their observations at the bedside of the afflicted. According to Dr. Eugene Foster, of Augusta, Ga., who gathered a vast experience in the epidemic of 1880, the more important points of similarity and dissimilarity are these: dengue has prevailed over Egypt, Asia and India where yellow fever is unknown. Both are arrested by frost. The fever in dengue rises regularly until the acme is reached, remains stationary for a few hours, and then gradually declines. In yellow fever the temperature rises steadily. In dengue the pulse rises in proportion to the temperature, in yellow fever the pulse becomes slower while the temperature rises. The duration of the fever in dengue is from five to eight days, in yellow fever it is seventy-two hours. Vomiting is rare in dengue and frequent in yellow fever. Albuminuria is the rule in yellow fever, the exception in dengue. Hemorrhages in yellow fever are more frequent and copious, especially the hematemeses (black vomit). Dengue is proverbially a non-fatal disease, while yellow fever is very fatal. One attack of dengue is not protective against a second attack nor against yellow fever, and the latter not against dengue, but one attack of yellow fever is usually protective against a second attack.

Dengue and malarial fevers might possibly be confounded, and no doubt in light cases are, for many of the so-called dengue-fever cases occurring at non-epidemic times

are often nothing but malarial fevers. The two fevers have certainly the time of prevalence and geographical distribution in common. The temperature, the eruption and the glandular enlargements in dengue will establish the diagnosis.

From articular rheumatism, dengue is to be distinguished by the fact that in dengue the swelling is peri-articular and attacks also the head, back, etc. In rheumatism we have intra-articular effusions. The heart is never affected in dengue. The glandular enlargement and eruption of dengue will also help to decide the case.

From scarlatina, dengue may be diagnosed by its articular pains, enlargement of glands and diversified eruption.

A very-interesting question presents itself, whether or not our last epidemic visitor, *la grippe*, and the dengue are one and the same. They have a great many symptoms in common; they both are sudden in their attacks; the prostration, cephalalgia and pains in the back and limbs are about the same in both; and the eruption is not uniform in either. The main point of difference between the two lies in the fact that in dengue the symptoms of disorders of the digestive organs prevail, while in *la grippe* the catarrhal symptoms of the air-passages are most prominent. Whether the well-known fact that the diseases of the digestive organs of hot climates correspond to those of the respiratory organs of the colder climates or seasons can be held accountable for this fact, is difficult to decide.

Allow me now to cite two of my cases which occurred to me during my Southern activity.

September 11, 1885, R. F., 48 years old, laborer, who had had dengue in 1866, in New Orleans, and yellow fever in 1876, was suddenly taken with severe frontal headache and pains in the whole body. He had felt slightly chilly previously. His temperature was $103\frac{1}{2}^{\circ}$ and his pulse 120. The next day his pains were severe in all the joints—he had a burning sensation about the sacrum, with nausea, a slightly sore throat, no thirst, a tongue dry, red and glazed. His bowels were normal and his mind was clear. September 13, his skin was very dry, his tongue about the same as the day before. He had vomited once during the night, a very greenish mixture, and felt very sore in the back. He was sleepless and restless, and his face and eyes were flushed. His temperature was 103° , and his pulse was 120.

September 14, his temperature was 102° , his pulse 108, and his tongue was slightly moist, but still red. He had a severe attack of epistaxis and several copious watery stools. His pains were much less severe, but he was still very restless. An urticarial eruption was seen on his body and limbs. September 15, his temperature was 100° , his pulse 80, and he felt fairly comfortable and made a ready recovery.

October 8, S. N., a woman thirty-two years old, had felt badly for the last two days—but on this day got pains in her joints and back. Her pulse was 96, her temperature 102° . The next day her pain had increased; she had alternate chills and heat flashes, and was very restless—she had itching over her whole body. Her temperature was 104° , her pulse 120; her tongue was dry with red stripes at the edges. At 6 P. M. she had had several attacks of copious nose-bleeding—she had soreness in the stomach and much pain along the spine. On October 10, her temperature fell one degree. Her menses had appeared the night before—one week ahead of time. She felt very weak and faint. She had patches resembling a scarlatinous rash on her body. Her lips were covered with fever-blisters, and she had a tendency to diarrhoea. On October 11, her temperature was 101° , her pulse 100. She suffered but little, but insomnia was persistent, her eyes and temples and body were slightly jaundiced. She had no more epistaxis, but severe uterine hemorrhage. On October 12, her temperature was $99\frac{1}{2}^{\circ}$, her pulse 90. She had not yet slept; otherwise she felt much better, although she still had slight aches along the spine. Her uterine flow had decreased much in quantity. On October 13, she was convalescent, the jaundice had disappeared, except from her eyes. By October 14, there was light desquamation of those places where the eruption had occurred.

In concluding this theme I will state that I have seen, and no doubt the gentlemen present likewise, during the spring and summer, here in Newark, a great many cases, which, for want of a better name, I called malarial, but which, had they occurred in a tropical climate would have been termed slight attacks of dengue, and under the proper conditions of heat and soil might have developed into good specimens; while on the other hand the slight attacks of Southern dengue we would up here call simply malarial fever. There is nothing in

a name. The symptoms to which I refer, and which were with very few exceptions not all present in every patient, were in the aggregation the following: General malaise, alternate cold and heat flashes, aching of the eyeballs, pains in the back, stiffness of the occipito-spinal muscles, pain and stiffness more or less severe in the limbs and joints, that could not always be accounted for as rheumatic, even cases with epistaxis, and spitting of blood in tubercular subjects, gastric disturbances, bronchial troubles, sore throat, and an itching eruption in some cases.

Take these symptoms in all, with the ensuing pyrexia, the chilly sensations of a severer and steadier nature, and the accompanying symptoms of correlative aggravation, and I cannot see what is lacking to make it, if not a case of dengue, as close a relative to it as is possible.

THE ORIGIN OF EPIDEMICS.

BY G. W. FUREY, M. D.,
SUNBURY, PA.

Believing that scientific medicine is not limited or circumscribed, and that it may use any facts in its mission to better mankind, I would like to call attention to the relation between disease and certain conditions which are especially the object of study in that branch of science called meteorology. We are all interested in the weather, the climate, and the various conditions belonging to our aerial environment. We notice aerobic micro-organisms dependent upon favorable conditions of the atmosphere for their life, their development and their dissemination. We realize the benefits of a proper adaptation of climate to the wants of our patients and are careful to guard them from the ill effects of sudden changes of weather. We observe epizootics, such as pink-eye, *la grippe*, catarrhal fever, chicken cholera, horse and cattle distempers following each other around the world. Within ten short years we have seen local rains and floods, cyclones and tornadoes, cease to be classed with exceptional and phenomenal occurrences in our Eastern States; and we have watched the thermometer go up until it registers a mean temperature higher than known to the memory of man, with our

winters growing warmer and our summers cooler, our rain belt changed and localized, and the rainfall greatly increased.

It has been proved that the temperature at the earth's surface is dependent upon conditions of the atmosphere, and that the universal tropical climate that produced the Coal Age was not due to the earth's internal heat. If we briefly examine the Coal Age we may be enlightened and assisted in our investigations. Enormous quantities of carbon dioxide mingled with the air of that period. The surface of the earth was more level than at present, giving a greater ocean area, much of which was shallow marsh, in which grew the great flora of the Age. Inhaling and storing up the carbon of the dioxide as woody fibre, it exhaled into the atmosphere vast quantities of oxygen, and thus prepared the air for the existence of man. When the air had at last become respirable and the general contour of the earth correspondingly adapted to the use of man, all but a necessary amount of this carbon dioxide had been withdrawn from the air, and was hidden away beneath the limestone and other rocks of a subsequent period, in the forms of coal, petroleum, and natural gas.

Glass transmits "luminous" heat and is impervious to the passage of obscure, or "dark" heat. It is thus we prepare our garden hothouse or conservatory. Light heat from the sun enters the conservatory, is changed to dark heat, within, and retained by the imperviousness of the glass to that kind of heat. Among the compound gases we find that carbon dioxide, in its relation to the transmission of heat, has the same properties as glass, transmitting luminous heat and reflecting dark heat.

Man has consumed the forests. Each year he mines, in the United States alone, two hundred millions of tons of coal. He has tapped the tanks of petroleum and the fountains of gas, and is oxidizing it all—all that vast quantity of carbon—converting it into carbon dioxide. The chimneys, laboratories and furnaces of civilization have been, for a hundred years, oxidizing carbon in the open air. The respiration of animal life has been oxidizing carbon all these ages, and now we find that the product has accumulated over the surface of the earth and is wielding an influence that is assimilating our climatic conditions more and more to those of the age of coal, approximating extremes, so that May weather has been known to temper the rigors of January and

"cool waves" to fan the sweltering summer.

There are a few deep, narrow valleys that have long been known as uninhabitable, because of the accumulation of deadly amounts of carbon dioxide at their bottoms; but more recently, since the increase in the combustion of coal, oil and gas, when every valley has its railroad and every hamlet is a manufacturing centre, perceptible quantities of this carbon dioxide have settled down in all the valleys and are becoming more manifest to us as they exert an influence upon the phenomena of the weather and the climate. Within a year and a half the eastern part of the country has been visited by local floods, the like of which have never been known before, and two of our inland cities have been devastated by cyclones which surpass any that have ever been known in all the land. Of the cyclone which swept through the city of Wilkes-Barre a few weeks ago, the papers said at the time: "This cyclone was born right here in the Wyoming Valley. Tuesday had been a muggy day." "Cyclones are not understood." "The Signal Service knew nothing about the beginning of this storm."

Wyoming Valley is about twenty miles long and about three or four miles wide, surrounded by high mountains, with Wilkes-Barre in its middle. "The weather was muggy" for days, not only in this valley but also generally throughout the East. The air was at rest, so that any accumulation of carbon dioxide that was in the valley, where vast amounts are constantly being produced, had settled down and spread out, forming an envelopment of the whole surface. At ordinary temperatures carbon dioxide is several times heavier than air; but it possesses the property of absorbing ninety times more heat than air possesses; so that its expansion will be relatively greater, and when slightly heated it becomes lighter than air. Now, over this carbon-invested valley the sun had been shining fiercely all the day. Its luminous rays had been transmitted through the layer of carbon dioxide, imparting to it some warmth, causing expansion—rarification. It rose up a little from the ground, and air took its place. Light heat streamed through and was changed beneath to dark heat, and it absorbed more heat, became lighter and rose higher, arching over the valley from side to side, and above the city, held down by its own weight and that of the super-incumbent column of air,

and pressed upward by its own lightness and the enormous expansion going on in the natural greenhouse below, where the "muggy" humid air was storing up as dark heat the enormous inpour of light heat of that long summer day.

As the sun was declining in the West, something happened in the vicinity of the city; some inequality occurred in the equilibrium that had lasted since morning, some untoward shaft of heat from below, perhaps, shot upwards, adding to the pressure already there; a small area of the envelope was forced suddenly up, a rift was made, and through it rushed the pent up expansion from below.

This instituted a column of escape with its apex ascending. To fill the threatened vacuum, its apex downwards, rushed a cold column from above. Below the envelope of carbon dioxide, it met with and became part of a heterogeneous atmosphere made up of air, smoke, dust and vapor of water. Meeting thus, under great pressure, heat was lost and taken; contraction and condensation suddenly followed; the tendency to a vacuum was increased, and violent motion was engendered. Conforming with the nebular law, a rotatory movement was assumed by the column of descending vapor; in phalanx the two columns, the hindermost invisible and the foremost enwrapped in a black, funnel-shaped cloud, as a cyclone it struck the edge of the city and mowed its swath of desolation across. Here is a clipping from a paper on the subject: "The large column that moved ahead of the debris seemed three or four hundred feet high and seemed yards in diameter. The roofs, timber, fences and trees were swept along behind like feathers in the wind." The statement by an eyewitness confirms so much of our theory. It was the advance column, the funnel-shaped cloud, that beat down and twisted to pieces the buildings and fences, while the ascending column swept them along like feathers in the wind.

I advance the theory, that the increased amounts of carbon dioxide that have gathered from all sources into our atmosphere produce, as I have described, the change in the weather and climate of recent years and that the alarming frequency with which new species of disease germs have been manifested in strange epidemics lately are consequent upon the same conditions and not merely coincident with them. It has long been known that yellow fever mi-

crobes require a higher mean temperature for their development than do those of other forms of disease.

It is supposed that *la grippe* of last winter sprang into sudden being from a small neighborhood in Russia, for the reason that its specific germs, because of propitious surroundings, shook off the lethargy of their "sleep of ages." Now, if this be probable, who can doubt that there may be lying dormant somewhere, awaiting a similar development, ærobic genera, that lay down to rest long ago, when prehistoric man and the mammoth became extinct.

If space would permit, many facts and suggestions that have come to my mind could be presented to strengthen or corroborate the theory. Here is a sample of what is becoming familiar to the newspaper reader of to-day. A newspaper speaks of a "Strange Disease among Cattle," as follows: "Marshall, Mo., August 27, 1890. John Nicely, a prominent farmer near Arrow Rock, reports a new and strange disease among his cattle, etc., etc."

However right or wrong my theory may be, it is my opinion that "above the clouds" is not the place to view the coming storm. Some one, groping near the surface and the facts, down where disease germs and cyclones work their mischief, will one day read aright the complex signs of epidemics now incomprehensible.

NASAL CATARRH.¹

BY HOMER M. THOMAS, A. M., M. D.,
CHICAGO.

The internal covering of the nasal fossæ consists of a mucous membrane called the pituitary, from the nature of its secretion; also the Schneiderian, from Schneider, the first anatomist who showed that the secretion proceeded from the mucous membrane and not, as formerly supposed, from the brain. The mucous membrane is intimately adherent to the periosteum, or perichondrium, over which it lies. It is continuous externally with the skin, through the anterior nares, and with the mucous membrane of the pharynx, through the posterior nares. The mucous membrane is thickest and most vascular over the turbinate bones; it is also thick over the septum, but in the intervals

between the spongy bones, it is very thin. This membrane is provided with a nearly continuous layer of branched mucous glands, the ducts of which open upon its surface. Under normal conditions, nasal mucus is very viscid, slightly opaque and strongly alkaline; it always contains some columnar epithelium; its composition is principally water, of which in 1,000 parts there are nine hundred and thirty-three, also, mucosine fifty-three (53), chloride of sodium and potassium five, calcareous and alkaline phosphates three, and some lactate of soda. The smooth, viscid and adhesive character of mucus which forms a coating for the mucous membrane, serves to protect its parts, enables their surfaces to move freely one upon the other, and modifies the process of absorption. It is to a common and very general disease of this mucous membrane, viz.: nasal catarrh, that I wish to call your attention.

The physiology of the nasal passages should as constantly be borne in mind as that of any other structure of the body. Respiration in health is carried on almost exclusively through the nasal passages. The ciliated structures lining these passages serve to arrest the ingress of various irritating substances in the respired air. The surface is covered with a delicate network of blood-vessels, with a large vascular and nervous supply, which raises the temperature of the respired air to a warmth suitable for the throat and lung passages. In an outside temperature of fifty degrees Fahr., the air, in its passages through the nose, is raised to 88°. Any process which interferes with this natural function is a cause of nasal catarrh.

The etiology of this disease is of the greatest importance. A perfect understanding of its causes and mechanism is the goal of the pathologist. From the first cold of the infant, along through the various stages of chronic rhinitis, to define the changes taking place, describe the morbid anatomy, study the causes and observe its course to where we see many manifestations of abnormal action, helps us in directing its hygienic and therapeutic management. And first we may well ask, is heredity a factor in causing nasal catarrh? I think not. In many cases there is a marked coincidence; but not necessarily a related cause. The histological facts concerning cell life will prove a successful contravention to the theory of heredity. The living cell is composed of finely granular matter, called protoplasm.

¹ Read before the Chicago Pathological Society.

The cell has a nucleus which may be round, oval or irregular. In the interior of the nucleus are small bodies, called nucleus corpuscles. In its natural state it develops, on its surface, a membrane. The cell, according to Virchow, has a three-fold vital activity: 1. The nutritive, which displays activity for its own preservation; 2. The formative, showing an activity in its own propagation; 3. The functional, or its behavior in its outward relations to other parts. During the life of a normal cell, under normal circumstances, it displays no other kind of activity. Its component parts render it incapable of any other kind of activity, consequently there are no changes except the physiological ones. Nor can any combination of these three activities result in disease. If the cell maintains its normal surroundings, it will live out its physiological life and disappear according to the laws of its own existence. Nothing can change these activities, except what comes from without. The nature of the surrounding influences over cell life, whether single or joined to others, may be favorable or unfavorable to all of its three activities; but the influence of heredity must come from within, if it comes at all. The law of a cell's life contradicts this. There is no escape from this law. All inside influences are healthful. To some extent a cell is not affected by its surroundings, because of its own vital force; but this range of independence is limited. When the external conditions of cell life deviate from the normal, then disturbances of cell activity ensue and disease occurs. I think a broader interpretation of this law can make it apply to the question of heredity in lung disease, as well as in catarrh. I am satisfied much unnecessary apprehension exists in the minds of many patients on this point. The fact of a parent having phthisis is no tenable ground upon which to base an opinion that the disease is transmitted to the child. It may be a ground for suspicion, especially if the child is living under the same exciting causes as those which developed the disease in the parent. But that is as far as we are physiologically warranted in assigning heredity as a cause.

Inflammation of the mucous surfaces of the nasal passages is due to enlargement of their blood-vessels, and a great increase in their number. This increase is more apparent than real, for these vessels exist long prior to the apparent increase; but as they do not carry red blood corpuscles, they were

not visible under the microscope. To permit the red blood corpuscles to flow through the vessels of a smaller caliber, the sympathetic nerves that control the muscles that surround this and other blood-vessels are debilitated. They are in a paretic condition. This condition is due to injury to the sensory nerves, principally by colds, also by other agents, such as tobacco, stimulants, strong irritating applications, etc. Unless the irritation were thus caused, the sensory nerves would not act reflexly upon the sympathetic nerves, causing a paretic condition. Because of this fact, there ensues such phenomena as inflammation, proliferation, hyperplasia, atrophy, oedema and ulceration. Without irritation, inflammation and its sequelæ cannot exist; hence every irritation produces more or less inflammation.

The etiology of nasal catarrh may be either local or exciting, predisposing or constitutional. As exciting causes may be mentioned the following: Getting the feet wet, standing or sitting for some time on a cold surface, exposure to night air insufficiently clad, changing beds from a warm to a damp room, mothers rising at night in the care of children, occupations with much dust, smoking, excessive moisture, sudden changes in the weather, dry, dusty atmospheres, insufficient clothing, slippers, hair clipping, cigarette smoking, mouth breathing, stimulants, etc. Bosworth has said that sealskin sacks have, in a given time, caused more deaths than small-pox. Among the constitutional causes are: rheumatism, malaria, measles, scarlatina, diphtheria, neurasthenia; while excessive fatigue, either mental or physical, by impairing the general health, places the system in a condition favorable to acquiring nasal catarrh.

There are three stages of nasal catarrh: 1, the dry stage, in which there is hyperemia, heat, redness, tumefaction, and pain in the mucous membrane; the mucous membrane being dry and dark-red in appearance; 2, the moist stage, which follows and supplements the first, with transudation of serum and white corpuscles into the connective tissue, cell proliferation, and organization of lymph, while the mucous follicles and glands are enlarged, distended and excessively active; 3, the purulent stage, marked by pathological conditions, denudation of the epithelium and the presence of a raw surface, while the excessive mucous secretion changes to a muco-purulent or pur-

ulent one. The presence of reflex eye symptoms in nasal disease is an interesting feature of it. Cases in which there exists a neurotic affection of the Eustachian tube of the left ear are often markedly relieved by spraying the nasal passage with vaseline. A certain group of eye symptoms, such as lachrymation, photophobia and conjunctival hyperemia, are observed in a number of patients who go to the rhinologist; and yet an examination of their eyes reveals no anomaly. The vision is normal, there is no eye strain, the conjunctivæ are healthy, and the tear ducts open. For such cases relief of the co-existing rhinal affection usually results in the cure of the eye trouble.

An interesting case was recently observed. A lady was troubled with severe hypertrophic rhinitis. The turbinate bones were well cauterized, and then the patient asked for relief for an eye trouble, stating that she had been unable to use her eyes more than five minutes at a time for the last three years. She was referred to an oculist that she might get relief. She returned to the physician's office in two weeks, and stated that she had not been to the oculist, but that the next day after her hypertrophies had been cauterized, she was able to read at night without affecting her eyes. Voltolini demonstrated that asthma may be relieved by the removal of nasal polypi.

In the treatment of nasal catarrh the diseased secretion, which is always acrid, should be removed. If morbid growths are present, as they are also a source of irritation, they should be removed, thus checking the local source of inflammation. The new secretion which forms on the mucous surfaces should be prevented from becoming acrid, thus avoiding a recurrence of inflammation. Hygienic and sanative measures should be insisted upon. These prevent a continuance of irritation to the sensory nerves located on the surface of the body, and also to the mucous membranes, by colds and other irritating agents. You thus remove the originating causes of inflammation. Then, *vis medicatrix nature* performs the cure, if possible.

The basis of the successful treatment of nasal catarrh, is a thorough application of the principles of antiseptics. Given a case in which it is possible to efficiently medicate the anterior and posterior openings of the nasal passages as often as necessary, and in a great proportion of cases a cure will result. In order to accomplish this end, it

is first necessary that the passages should permit a free entrance and exit of air during inspiration and expiration. Anything interfering with this normal function is the starting-point of the development of nasal catarrh. Conditions may exist in the nasal passages requiring surgical treatment, involving the straightening of a deflected septum, or the removal of portions of the superior turbinate bones. If an obstruction exists which interferes with free nasal respiration, there can be no successful treatment until the obstruction is removed. However, in examining the nasal passages, we may be led into the error of suspecting marked obstructions from the tortuous and irregular appearance of the passages upon rhinoscopic examination. It has been estimated that out of six hundred cases there were not over ten which presented perfectly straight and smooth passages. Hence internal deviations of the passages are not a source of disease, provided they do not interfere with perfect nasal respiration. I think a great deal of unnecessary surgery is done upon the nasal passages. It is attempted largely for the purpose of gratifying the ambition of the surgeon, and incidentally of affording some experimental relief to the patient. My experience is that the large proportion of cases do not require any surgical procedure.

The remedies advocated for the treatment of nasal catarrh have comprised almost the whole *materia medica*. They consist of strong astringents, strong solutions of nitrate of silver applied with a post-nasal syringe, sprays of the tincture of chloride of iron, tannic acid, etc. More extended experience in the treatment of this disease has simplified the treatment. At the outset we spray the nasal cavities with Dobell's solution, or with Listerine. Carl Seiler's antiseptic tablets are very effective. Having cleansed the nasal passages thoroughly we are now ready to apply the medicament. Where there is marked hypertrophy, the galvano-cautery should be used. You can use, about three times a week, a spray of vaseline in combination with tincture of iodine, or carbolic acid. Albolene is also an excellent medicament. Rhinal inflammation invariably commences on the superior and middle turbinate processes, and extends in all directions in the nasal passages and into the passages connected with them, except on the floor of the nasal passages or inferior nasal meatuses. The

under surfaces of the four diseased turbinate processes cannot be thoroughly cleansed or treated by the anterior nasal openings. To thoroughly treat these structures approach must be made by way of the posterior nasal openings. I have found the Starkey tip most excellently adapted to treating these surfaces.

A powder, which has been very satisfactory in its action on the mucous membranes of the nasal passages, consists of one grain each of borate and bicarbonate of soda, three grains of carbonate of magnesia, four grains of cocaine, and a sufficient quantity of the sugar of milk to make one hundred grains. This combination is efficient in allaying acute inflammatory attacks and also in temporarily relieving hypertrophies of the turbinated bones. I use it by insufflation both anteriorly and post-nasally. The physiological action of this powder seems to be due to its stimulation of the vaso-motor nerves, causing contraction of the vessels of the terminal bulbs of the peripheral nerves and diminishing their blood supply.

The local use of the various preparations of vaseline is necessary for the successful treatment of nasal catarrh. I have found useful the following preparations of vaseline: Vaseline pure, vaseline with eucalyptol, vaseline with gaultheria, vaseline with carbolic acid, vaseline with pinus Canadensis. An acute attack of nasal catarrh can sometimes be aborted by the internal administration of a quarter of a grain of morphia sulphate, and one one-hundred and fiftieth of a grain of atropia; in a very severe attack the dose can be increased to half a grain of morphia sulphate, and one one-hundredth of a grain of atropia. However, in spite of all we may do in the way of local medication for this affection, there are at times patients who do not improve as we would like them to do. If the history of such cases is carefully looked into, there will usually be found a diathetic condition at the bottom of the nasal trouble, the relief of which will cause a subsidence of the local inflammation. Thus a catarrhal condition frequently extends into the stomach and intestines, in which we have the combined symptoms of gastro-intestinal catarrh. When the nutritive system becomes deranged there are many sympathetic disturbances which follow.

Each case of nasal catarrh has its specific and special indication for treatment. As a rule, routine practice will not bring satisfactory results. By carefully analyzing all

of the exciting causes present in each case, and efficiently directing our remedies to the relief of both general and local conditions, we are warranted in hoping for a successful termination in the treatment of a very large proportion of cases afflicted with nasal catarrh.

ADMINISTRATION OF MORPHINE BY THE NOSTRILS.¹

BY CARL H. VON KLEIN, A. M., M. D.,
DAYTON, OHIO.

As a rule, where persons dislike the taste of morphia, or where it is desired to have a rapid physiological action, the hypodermic method of administration is resorted to. This method is open to the objection that it requires a small surgical operation and that this sometimes is followed by the formation of an abscess.

I desire now to describe a new method of administering morphia, namely, through the mucous membrane of the nose—a method which has been thoroughly tested by me in over one hundred cases, in which the immediate physiological action of morphia was necessary. I have found it to be reliable and more prompt in its action than the administration of the drug by the mouth or hypodermically. It requires much smaller doses than is requisite in dosing by the mouth, and no larger dose than is usual for hypodermic administration.

The manner of administering morphia through the olfactory canal is simply by causing it to be snuffed up the nasal chambers, in the same manner and in the same way as snuff-tobacco is used. The dose is divided into two equal parts, and each part is placed upon the end of the thumb and snuffed up into the nostril. The membrane being very soft and delicate it appears to be absorbed instantly. I have tried it on myself on several occasions and the absorption seemed almost instantaneous. Fifteen seconds after the introduction of the morphia, I have blown my nose; and nothing could be found in the secretion. However, in poor qualities of morphia, the drug will not be absorbed as readily.

In cases where the nasal chambers are covered by crusts or dry secretion the cavities

¹ Read before the American Rhinological Association, October, 1890.

should be cleansed before administering morphia, care being taken not to snuff it up too strongly. If the drug is of a poor quality it will produce sneezing; but the narcotic effect will be the same.

When morphia is administered in the manner I have just described, it is tasteless, its action is rapid and the narcotic effect lasts for a longer period than when this drug is taken either by mouth or hypodermically.

FOREIGN CORRESPONDENCE.

LETTER FROM BERLIN.

BERLIN, September 26, 1890.

Reminiscences from the Congress.—Koch's Latest Discovery.—The Emperor Protecting a Physician.—The Prostitute Question.—The Gonococcus.—Onanism in a Child eighteen months old.—The Romance of an Alleged Madman.—Sexual Perversion in the German Nobility.—A Sane Inmate of an Insane Asylum.

The Berlin Congress has done wonders in changing the repute of American physicians abroad. The notorious "Philadelphia Doctor" no longer exists, and those previously regarded as charlatans are to-day viewed with respect and mentioned with terms of high praise. It is at last an established maxim among German physicians that the American practitioner is in every way the peer of any of his European colleagues. Not only the great number of American guests was an immense surprise, but also the quality of the American representatives and the indefatigable energy displayed by them. It is a fact that, while the European physicians visiting the Congress "did" the town, the Americans were hard at work in the sections, hospitals, or at the exhibition. It has also been favorably commented upon that the majority of Americans were accompanied by their wives. The brilliant lecture of Prof. Wood on anæsthesia will probably have a lasting influence upon anæsthetic practice in Germany, inasmuch as many surgeons have concluded to try ether instead of chloroform, which is almost exclusively used in Germany.

The disgraceful scenes at the banquet given by the city of Berlin to the Congress were recently the topic of dis-

cussion in Council. A councilman called the Congress a medical schuetzenfest, and emphasized the waste of money. He was not altogether wrong. The money spent by the city for the Rathhaus banquet was really enormous and the result was total intoxication of most of the shining lights of the profession. I regret to state that the bigger the man the more he was inebriated. On a Professor whose name is a household word all over the medical world artificial respiration was practiced for almost an hour and another Professor who has revolutionized one of the most important of medical branches had a bad cut in his head, the result of a fall. A French physician who has made his name renowned by fighting intemperance through exposure of the injury inflicted upon the organism by alcohol, was unable to spell his own name. By a queer coincidence I also saw two men hugging each other who are known as irreconcilable antagonists in science, one a leader of German bacteriologists and the other a well-known Paris Professor who does not believe in bacilli.

Professor Koch is just now experimenting with the new bactericide on the living organism. His announcement at the Congress that he had found a remedy which kills the bacillus tuberculosis without injuring the organism, was received with incredulity, all the more as he suppressed its name. Recent researches established by Koch at the Imperial Health Office appear to demonstrate that the antibacterial agent in question acts in the indicated direction, not only on animals, such as the guinea-pig, but also on man. How long yet and tuberculosis will—according to that outlook—be included among the curable diseases. But who has to-day really the courage to believe that?

At a recent visit paid to Heligoland, which has been reunited with the Fatherland, I learned of an interesting little affair in which the Emperor of Germany assumed the rôle of a doctor's protector. In the proclamation accompanying the annexation of Heligoland, the Emperor had promised not to injure the business interests of any of the residents of the island. Dr. Lindemann, the old resident physician of the island, soon after that found cause to complain to the Emperor that two German physicians intended settling in Heligoland, while the British Government had refused that privilege to any other doctor. Next day Dr. Lindemann received word from the Imperial

Cabinet that His Majesty forbids the settling of a second physician in Heligoland, except on consent of Dr. Lindemann.

The Berlin city authorities are at loss what to do with their twenty thousand registered prostitutes. At present they can room where they please, but are forbidden to walk on certain streets, such as Unter den Linden, Leifzeger and other streets, and are compelled to present themselves twice a week for examination in the City Hall. Their examination, as carried on to-day, is a perfect farce, and consists in the ocular inspection of the genitals by an old doctor, provided with a badly-disinfected speculum. Subacute, chronic or localized gonorrhœa this physician could not possibly discover, and the result is an enormous rise of the number of cases of gonorrhœa in Berlin, although few of the women were found to be infected. The fathers of the city have consequently issued a new regulation, which makes the examining office a position for life, and directs a microscopic and bacteriological investigation in every case.

The question whether the presence of the gonococcus in the genitals of the female is conclusive evidence of gonorrhœa has at present entered into a new and interesting phase of development. For, in a large number of cases this microbe has been found where the suspicion of sexual intercourse was out of the question. Fraenkel and Widmark have shown that in vulvovaginitis of little girls the gonococcus is always present. Against this doctrine powerful arguments have been advanced, particularly the manifold and obscure sources of infection in these cases. The lately-published investigations of Vibert and Bordat, appear to fully confirm the doctrine of Fraenkel and Widmark. Six girls aged from two and one-half to eleven years, claiming to have been immorally approached by six men were the subject of examination. The men charged with the crime were likewise examined, but no trace of gonorrhœa was found in them. Singularly in all six girls the gonococcus was found to be present. To be sure, if the gonococcus is present in every case of vulvo-vaginitis, it will be exceedingly difficult henceforth to diagnose gonorrhœa in the female, unless manifest evidences are present. And unfortunately it is true that the chronic and subacute cases of gonorrhœa in the female form the most frequent sources of infection. Still the examination of the prostitutes is

doing some good and Berlin has fewer cases of gonorrhœa than New York, for instance; though I firmly believe Berlin to be a more immoral place than New York.

That onanism is largely practiced by children is known, but that an infant eighteen months old could be a confirmed onanist is certainly a revelation to the greatest pessimist. Dr. Crivelli, of Paris, presented to the Congress the photograph of a child of the age stated, showing a development of the genital organs like that of a girl of eighteen years. Mammæ and mons veneris were immensely developed, the menses had appeared and continued since three months, and had lasted for from three to four days. To perfect this phenomenal group of appearances, the child was a confirmed onanist, indulging in the act about twice a day.

The immoral tendencies and perverted sexual appetites of some of the nobility of Germany have just now come again to the front in a most disgusting manner. Von Zastrow, a representative of one of the oldest and richest noble families of the land, who was sentenced many years ago for illicit intercourse with men, is the type of this class of criminals.

Yesterday Major Von Normann, Commander of the Potsdam Subofficer's School, was found dead in his room. His radial arteries were opened and he was poisoned besides. Twenty-seven cadets had left the academy, but declined to state the reason for it. At last the revolting practice of the Major had been reported, and all the town knew that he would kill himself, so no one was surprised. I believe that this perversion is simply a certain kind of cerebral affection—a mania, and as such subject to treatment.

Professor Eulenburg, of Berlin, has this week pronounced sane a young Hussar Lieutenant, Carl Hermann, who could write a book on his troubles. He was thirty years of age, rich, handsome and happy, when suddenly, owing to family intrigues, he was taken from the Austrian garrison, where he served, and sent to an Insane Asylum. Four times he succeeded in escaping, but was recaptured each time. His wife was at the bottom of his misfortunes; she had, for example, charged him with practicing abortion on her person. While in the Asylum the young officer wrote "A ball-night in the Insane Asylum," and made plenty of money by the immense sales of that book, obtaining thus the means for escape. On the testimony of Prof. Eulenburg the officer will

be reinstalled into his former titles and possessions.

PERISCOPE.

Rabies or Hydrophobia.

A discussion at the Neurological Section of the New York Academy of Medicine.

The President of the Section, DR. L. C. GRAY, in discussing the clinical aspects of hydrophobia said that the extreme variability in the period of incubation had given ground for the belief held by many competent observers, that if there really existed such a disease as hydrophobia at all, death might also occur, as the result of fear, with symptoms closely resembling the true disease. He thought himself justified in assuming that frequent mistakes are made in the diagnosis of rabies, the so-called dumb rabies being merely a symptom of simple purulent meningitis and meningo-encephalitis, and that very few cases of true rabies or hydrophobia—the latter term being used to signify the disease in man—had been observed in New York City or in the country at large, and he believed that there was a disease running a fatal epizootic course in the dog and other lower animals, capable of being communicated to the human being, and causing death, although the evidence of this would rest mainly upon pathological and experimental findings.

DR. L. C. DANA said that there was no constant change to be found in this disease. The nervous centres, which are the parts chiefly involved, are congested and occasionally showed hemorrhagic and softened spots, with subsequent evidences of increased vascular activity, exudation of leucocytes into the perivascular spaces and possibly the beginning of a multiple focal myelo-encephalitis or of focal necrosis and the symptoms are evidently not the result of any organic changes in nerve tissue, but of a distinct poison, the product undoubtedly of microbic activity. In the light of Pasteur's scientific work this question of specific origin was proven. The speaker did not believe that there were authentic clinical records of a single case in which the fear of hydrophobia had caused a disease measurably similar to rabies, nor was there a case of death from this hypothetical phantasm. There had possibly been some tetanus following bites or acute mania, in those pre-

disposed, from fright. He thought Pasteur had demonstrated the fact that as a reliable prophylactic measure, antirabic inoculations could be successfully employed.

DR. H. M. BIGGS then gave an elaborate description of the respective methods of inoculation and of the various emulsions used in the work of both Pasteur and Ferran.

DR. H. C. ERNST, of Boston, who has done considerable experimental work in this field of inquiry said that he regarded the results by Pasteur as among the greatest achievements of modern medicine. The speaker had been entirely converted to a thorough acceptance of the theory after conducting a series of inoculation experiments. If there was one thing certain in medicine, it was the unerring precision in the results obtained by the inoculation with these cord emulsions under the dura mater of the healthy rabbit. There is nothing like it in the whole range of scientific experimentation. As to the existence of a constant lesion, pathognomonic of rabies, he did not know that this could, at present, be defined with scientific accuracy, but careful observation had demonstrated the very uniform presence of infiltration of the minute vessel walls in the medulla with white cells, engorgement of the veins, and occasionally perivascular hemorrhages. What appeared like small miliary abscesses were also present. The condition had been aptly covered by the term "miliary bulbitis." Dr. Ernst then gave the clinical histories of three cases of true rabies in man which had come under his own personal observation, and which, taken with the fact that a large number of dogs were affected at or about the same period, pointed to the recent existence of an epidemic of rabies in Boston. One of the cases, cited in detail, was of special interest, because the patient, between the paroxysms, was able to describe his condition. He had been especially questioned as to whether there existed any repugnance to water, and had positively stated that this was not so, but that any mental process connected with the act of deglutition caused an uncontrollable spasm of the muscles of the throat, and this patient had also described himself as perfectly conscious of his acts during the violent paroxysms, but as being utterly unable to control himself. Even while thus quietly describing his sensations the fit would come on, and the next moment he would be on

the floor, struggling with four or five men. Then as to the value of the preventive method, the speaker instanced the case of a boy who was bitten in August by a dog which, within fifteen minutes, had also bitten several dogs, and of these, two had died of rabies, and the father of the boy, becoming alarmed, had consulted the speaker. Inoculation was advised, and was submitted to twice a day. No bad symptom had resulted. Before the boy's return home, a third dog had succumbed to unquestionable rabies.

Whether there was anything in Pasteur's claims or not, one thing was certain, he had got hold of a specific virus which could be transferred from one animal to another indefinitely, always producing a sequence of practically identical symptoms. The experiments made by Dr. Spitzka had not been carried far enough. They had produced something similar to the appearance of rabies in the rabbits, but had offered no sort of ground for comparison with Pasteur's experiments. While hardly wishing to stand up as a champion of the Pasteur method, if the statistics of the Institute were not reliable, he was still bound to believe in the honesty in purpose of Pasteur and his assistants. It was a significant fact that after the careful elimination of all cases in which an element of uncertainty existed the mortality rate for those treated by inoculation under the method was only ninety-eight one-hundredths of one per cent. He expressed surprise at the statement that there could be no such condition as pseudo- or lyso-phobia.

DR. R. W. BIRDSALL said he had seen a number of cases of pseudo-rabies resulting from fright after a bite or scratch of a dog. These cases had not resulted in death, though he was not prepared to go so far as to say that death from fright was not possible. The nervous shock sustained might set up a series of changes such as motor paresis, oedema of the brain and coma, resulting in death. He did not believe they were yet in a position to be able to refer the phenomena of true rabies to the existence of one kind of specific germ. The effects might be due to the presence of distinct varieties.

DR. H. P. LOOMIS had only considered the subject from a pathological standpoint. The findings tallied very much with those described by Dr. Ernst. Sections of the lower portion of the medulla had showed congestion of the capillary vessels and giant

cell infiltration of the adventitia, but no capillary hemorrhages or thrombi.

DR. BYRON, who has made extensive experiments at both the Carnegie and the Loomis laboratories, had arrived at the conclusions that, (1) inoculations of the specific virus of rabies under the skin are completely useless, (2) the results desired could never be produced by any process except subdural inoculation, and that even then the effect was not inevitable. The question was a serious one, and the subject still open to further experimental research before any definite scientific conclusions could be formulated.

DR. E. C. SPITZKA said he had made no experiments on rabbits as intimated by Dr. Ernst, who had evidently not followed the points of his work. In the experiments made by him on dogs, he had made no claim that these animals had represented true cases of hydrophobia, but by the introduction of various irritating substances into the brains of these dogs he had produced conditions of bogus hydrophobia. He was now associated with the conduct of a series of elaborate experiments on rabies the results of which could not as yet be formulated.

DR. L. C. GRAY thought the discussion had proved, (1) that there is undoubtedly in the lower animals a disease, known as rabies, possibly made up of several diseases, due to different micro-organisms; (2) that this disease is more frequent in the lower animals than a similar disease in man known as hydrophobia; (3) that while this so-called rabies in animals occurs very often in this country, it occurs less frequently in the human being; (4) that very few medical men have seen genuine cases of hydrophobia; (5) that cases of pseudo-hydrophobia are by no means uncommon, and that death could result from the condition; (6) that there still exists considerable diversity of opinion as to the value of Pasteur's method which would furnish material for discussion and incite to further experiment.

Exsection of Part of Pubic Bone.

The *Centralblatt für Chirurgie*, July 26, 1890, quotes the following from the *Gaz. des Hôpitaux*, 1890, No. 33.

In the case of a soldier, twenty-three years old, with pain in the left inguinal region and in the upper part of the thigh, Moty found a

flat, hard, elastic, fluctuating, irreducible, non-pulsating tumor, beneath the aponeurotic structures. A large cheesy abscess, with fragments of bone, was exposed by operation. The left half of the symphysis pubes was converted into a tuberculous sequestrum. This was removed, together with all caseous matter and a counter-opening was made in the perineum. The urethra and spermatic cord were carefully protected. Urine was voluntarily passed three hours after the operation. Recovery took place in five weeks. Moty's operation shows that the symphysis pubes may be removed in part or entirely without injury to the urethra, and the spermatic cord may be protected from all injury, on account of its mobility. A counter-opening in the perineum provides for antiseptis and drainage.

In the case reported the origin of the tuberculous process is unknown. There was no history of trauma. The testicle and the urethra were healthy; and, although the tuberculosis must be recognized as a local manifestation of a general infection, the operation was followed by excellent results.

Cincinnati Medical Schools.

It is a gratifying fact that all the regular medical colleges of Cincinnati have kept step in the march of progress in the matter of extending the curriculum. The announcements all state that the three-term course has been made obligatory, a statement which might have been anticipated for years from the fact that all three of the colleges have been placing a premium upon the extended course by abating the fees for the third year. We are informed that the final concert of action was without conference but because each of the faculties recognized that the time was ripe for the change.

A wholesome tendency is shown by the fact that all the schools are remodeling their buildings with reference to clinical and laboratory facilities. This is a move in the right direction and points infallibly to the time when the present order of things will be reversed in medical teaching. It points to the time when the demonstrator will supplant the lecturer, and when the practical teacher will take the place of the didactic "professor." It indicates the time when the Pestalozzian principle of education shall dominate medical pedagogues; the time when things rather than words, objects

rather than phrases, shall be taught in the medical college.—*Cincinnati Medical Journal*, August, 1890.

Digging up Streets.

Dr. C. N. Dowd, of New York, has been studying the influence on health of digging up the streets of cities, and has published the results of bacteriological experiments in this direction in the *Medical Record*, June 21, 1890. He estimated the number of bacteria in 1 c.c. of the soil taken from different places. Sixteen of these samples were taken from where the earth had a strong odor of illuminating gas, and an equal number from where there was no such odor. The average number of bacteria present was about the same in the two classes of earth. He next studied the action of illuminating gas upon the bacteria of earth and upon the typhoid bacillus. The results were negative so far as could be determined. He concludes that the digging up of streets may increase the spread of disease-germs, but that the increase cannot be very dangerous. If this be true the digging of ditches in cities ought not to cause great alarm.

Cœliac Affection in Children.

The *Dublin Journal of Medical Science*, September, 1890, says that Dr. R. A. Gibbons, in a detailed description of four cases of what Dr. Gee calls the "Cœliac Affection" in children, thus sums up its general characters: The disease is characterized by the passage of large, loose, white, or whitish, frothy, intensely fetid motions; by pallor of the skin; wasting; loss of muscular sense, and by the fact that it is most frequently met with in children between one and five years of age. The youngest child I have seen attacked with it was between ten and eleven months old. I have seen it in children with perfectly healthy parents, and, indeed, sisters and brothers in every way healthy. In only one family can I trace any history of struma on the side of the father. No history of tubercle can be traced in the family of any of the patients whose cases are related, except one, and in that consumption occurred in a paternal uncle of the patient, and in all there is no history of syphilis obtainable, and no reason to suspect it. In most of the cases there is

a history to be obtained of gout, either on the side of the father or mother, or in distant relations. The examination of the feces themselves throws no light upon the matter. In those I have submitted to careful microscopical examination I have never been able to discover anything abnormal, and I have failed to detect any tubercle bacilli, although they were carefully searched for.

Contagion of Diphtheria at Funerals.

Dr. E. H. Bartley, of the Long Island College Hospital, says, in the *Brooklyn Medical Journal*, September, 1890:

The public at large seem to require very startling results in order to become educated in sanitary matters. The fact that contagion may be spread by corpses does not, even yet, seem to have taken possession of the public mind. Dr. Baker, of the Michigan State Board of Health, has issued a circular calling attention to a case of diphtheria in Lapeer County, Michigan (described in the *REPORTER*, August 2, 1890, p. 146), which originated from exposure in viewing the remains of a woman and child, brought from another county, and who had died from a throat disease, supposed to have been diphtheria. Many others, says Dr. Baker, would probably have been exposed except for the action of the local health officer, Dr. Wisner, who, suspecting the cause of the deaths to have been diphtheria, warned the neighbors and forbade the opening of the coffins at the funeral. He promptly isolated the first person attacked, and no epidemic followed. This, says Dr. Baker, is quite different from the result of a similar occurrence at Zanesville, Ohio, last spring, where many deaths resulted from exposure to a corpse brought from Chicago. It shows the importance of notice to the local health officer of the arrival of a corpse known to have died of a contagious disease, so that he may take every precaution that may be necessary.

Hysterical Muteism Cured by Hypnotic Suggestion.

M. Ruault reported at a recent meeting of the French Society of Otology and Laryngology (*Revue de Laryngologie*, September 1, 1890), an interesting case in which he cured a woman of hysterical speechlessness by hypnotic suggestion. During a laryn-

scopic examination, he drew her tongue out very strongly, and at the same time pushed the mirror back in the throat: he then let go of the tongue, drew the mirror out and said, positively, to the patient: "You can speak now; you are cured. What made you mute was that the bone which holds up the larynx was a little dislocated, but I have been able to set it right by pulling on your tongue." The patient immediately began to speak, with a little hesitation at first, but soon very naturally.

Several months afterwards this same patient became aphonic in consequence of bilateral paralysis of the adductors. Dr. Ruault tried the suggestion again, and also electricity, but neither did any good. Dr. Ruault points out the marked difference shown in this case between the effect of suggestive therapeutics upon a disease depending upon a psychic case, and that depending upon a material alteration in the organs of speech.

Phthisis in Berlin.

According to Dr. George Meyer, in the *Allgemeine Medicinische Central Zeitung*, July 26, 1890, official statistics disclose that the number of deaths from phthisis (excluding laryngeal phthisis and pulmonary hemorrhage) in Berlin, between the years 1880 and 1889 was smallest in the year 1881 and largest in 1889. The mortality, however, in proportion to population has decidedly, though not regularly, decreased. From 1880 to 1889 there were 322,192 deaths in all, of which 41,608—12.91 per cent.—were due to phthisis. Dr. Meyer concludes that the time is ripe for the discussion of the question of establishing institutions for the treatment of diseases of the chest.

Posthumous Labor.

The newspapers reported from Vienna on September 19, that the body of a woman named Goeda was exhumed at Szegedin that day for the purpose of an autopsy. When the coffin was opened it was found that the woman had been buried alive and that she had given birth to a child in the coffin.

This story comes so soon after the account published in the *Lancet*, and repeated in the *REPORTER*, October 4, that it may be suspected to be a reproduction of that one.

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The Editor will be glad to get medical news, but it is important that brevity and actual interest shall characterize communications intended for publication.

TREATMENT OF EMPYEMA.

The treatment of empyema has been a moot question since the days of Hippocrates. At different periods in the history of medicine varying meanings have been applied to the word empyema. It has been defined as a collection of blood or of pus or of other fluid in some cavity of the body and particularly in that of the pleura. It has also been used as a synonym for thoracentesis and for the spontaneous evacuation of a purulent pleural effusion, empyema necessitatis. To-day, however, by empyema is meant a collection of purulent fluid in the pleural cavity.

An interesting and important discussion on this subject took place before the Ninth Congress for Internal Medicine, at Vienna, April 15 to 18, 1890. The report of the proceedings, compiled by Alexander Fraenkel,

is published in the *Centralblatt für Chirurgie*, July 26, 1890. Immerman and Schede read papers on the subject, addressing themselves more particularly to the treatment. For this the main indications are: to remove the pus; to prevent re-accumulation; and to restore as nearly as possible the normal anatomical and physiological relation of the respiratory apparatus. It is generally agreed that pus should be removed as soon as it has been recognized to have formed, in the pleural cavity as well as in any other situation. Such effusions are rarely absorbed. Absorption is said to take place in so-called metapneumonic empyema, characterized by the presence of the pneumonia coccus exclusively. The diagnosis of this condition can only be made by the methods of bacteriological isolation and culture.

The operative removal of pus from the pleural cavity is not very difficult. The prevention of its re-accumulation, however, is a rather more serious matter. As long as any of the excitants of suppuration are left behind, accumulation must recur. The great difficulty is in the removal of all offending matters.

For a perfect result the restoration of the normal respiratory conditions must be attained. This is the greatest difficulty. When there co-exists irreparable disease of the lungs, as in phthisis, in perforative pyopneumothorax or old and neglected empyema, a relative cure—that is, recovery with deformity—is all that can be expected.

Various means have been suggested to meet the indications. The effusion can be removed by puncture and aspiration, but then it usually re-accumulates. This may, however, answer as a palliative measure in desperate cases in which radical treatment is not admissible. Disinfectant irrigation following aspiration is not more successful. A more rational method appears to be irrigation of the pleural cavity by two openings at opposite points (one in front and below, the other behind and above) by means of a

permanent drain which can be closed at times—the method of Michael. This avoids the formation of a pyopneumothorax and suffices for the constant evacuation of the pus. The so-called radical methods all have in common a large opening, remaining unclosed until cure finally results. Since the general application of this principle to the treatment of empyema the mortality has fallen to one-fourth or one-fifth of what it formerly was. Even in putrid empyema the prognosis is no longer as grave as it was and is regulated more largely by the constitutional condition and by complications than by the mere existence of the effusion.

The radical method of treating empyema was not unknown in the days of Hippocrates, nor was the preference for the low opening unrecognized. The method now preferred is that of König, which consists in incision at the side of the chest, sub-periosteal resection of a rib, clearing the pleural cavity of coagula, drainage and antiseptic occlusion bandage. Subsequent irrigation becomes necessary only if the pus becomes stagnant. To avoid the necessity for irrigation, Küster recommends, in case of small, sacculated empyemas, packing the cavity with iodoform gauze; in case of more extensive effusion, an opening and a counter-opening, anteriorly and posteriorly, at the lowest possible points, close to the diaphragm, with resection of a rib posteriorly, to afford thorough drainage.

Brilliant as the results of radical operation undoubtedly are, deformity and impaired function are apt to follow. The lung becomes adherent to the chest wall, which undergoes retraction. By the method of Bülow the production of an artificial pyopneumothorax is obviated, positive pressure being substituted for negative. The principle is that of the syphon. A trocar is introduced at a dependent point on the lateral aspect of the chest. Through the canula a drainage-tube is passed into the thorax, the canula is removed and the drain is made air-tight, and connected externally with a long tube

dipping into an antiseptic solution. Constant negative pressure is thus exerted, there is no accumulation and the lung expands naturally. If the lung is readily and completely expanded, as in recent empyemas, this suffices; otherwise, and when the pus is thick, the action may be aided, temporarily or permanently, by aspiration. So, too, if the tube become occluded by coagula, these may be pushed back into the pleural cavity, there to undergo disintegration and liquefaction. The amount of secretion diminishes; it soon becomes serous. The tube is gradually shortened and finally, with the cessation of the discharge, is removed. The cure is complete; there is no deformity, no defect; and the lung is able to move with almost normal freedom. Immerman has collected fifty-seven cases treated by the method of Bülow. Of these patients, three died; five required secondary operation; the remaining forty-nine recovered completely.

Schede prefers incision and resection of a rib. He avers that open pneumothorax does not hinder expansion of the lung. As to the question of amyloid degeneration and tuberculosis, as contra-indications in operation, he cites a case in which amyloid disease of the liver, with ascites and anasarca, receded after extensive resection of the chest wall. The empyemas of tuberculous subjects, if the general condition permits, should be treated like all others; but empyemas resulting from miliary tuberculosis of the pleura and from perforation of cavities should be treated only palliatively by aspiration. In ten cases of pyopneumothorax of excessive degree, in which the lung was pressed against the vertebral column and fixed by adhesions, Schede made a flap of the soft parts of the lateral and adjacent anterior and posterior aspects of the chest, resected the underlying ribs, from the second to the lower level of the pleural cavity and from the costal cartilage to the tubercle of the rib, removing bone, intercostal structures and thickened pleura; after which he covered

the wound with the original flap. In none of the cases had the condition existed for less than three years. Six of the patients were cured; one died in ten days, of iodiform intoxication; in one Bright's disease developed; and in two recovery was not complete at the last observation.

In conclusion, we think the present opinion to be that as soon as effusion in the pleural cavity is recognized as purulent it should be evacuated. Puncture and aspiration, with or without irrigation, may be done as a palliative or preliminary measure, and Bülow's method of aspiration drainage may be tried in all other cases. In double empyemas its application is almost indispensable. Other methods failing, recourse may be had to incision and resection of one or more ribs.

INSOMNIA OF CHILDREN.

The treatment of insomnia of children is one of the most important subjects which come under the attention of medical men; for, while at times insomnia is not a very serious matter, many times it is very serious to both children and parents. In discussing the treatment of insomnia, Simon, as quoted in the *Revue Médicale*, July, 1890, dwells upon the importance of searching for the cause, which is often very difficult to discover. Most frequently insomnia is caused by dyspepsia; and it is important to question parents as to the manner in which a child is fed, and to investigate the milk of the nurse, to see if starchy food has not been given too early, or even alcohol or possibly tea or coffee. Sometimes insomnia depends upon the fact that the evening meal is too large. Children as old as three or four years should not eat too much in the evening immediately before sleeping.

When the cause of insomnia has been discovered, the first duty of the physician is, of course, to do away with that. After this, hypnotics may be required; and, of all hypnotics, Dr. Simon truthfully says, opium is the very best. He says an attempt has

been made to banish the use of opium from the therapeutics of infancy, but that this is entirely wrong. It would not be proper to give opium to a child suffering with constipation or disorder of the kidneys; but in the absence of such contra-indications, laudanum may be prescribed in the dose of a half drop under one year, and of a drop for each year after that. Syrup of codeine is a good hypnotic, and is admirably borne by little children. Half a coffeespoonful may be given under one year, and a spoonful for each year afterwards. The bromides are often useful, four or five grains at six months of age, seven or eight at a year, and afterwards fifteen grains at a dose in the evening. Chloral is an excellent hypnotic, and Simon says it is devoid of danger in the same doses as are recommended for the bromides. Simon advises that it be given preferably, in a lavement, using first a simple lavement to wash out the bowel, then the chloral, combined with camphor or musk, in the yolk of an egg, stirred up with a little quantity of water. He thinks that chloral is especially adapted to children who are threatened with convulsions, hiccoughs and jerking. In some cases antipyrin, used in the same way as chloral, is a good medicament.

These suggestions are very interesting as coming from a man of great ability and much experience, and especially because they do not consist in theoretical studies of this troublesome difficulty, but propose plain and practicable measures for curing it.

COLORED SOUND.

In the *Revue de Laryngologie d'Otologie et de Rhinologie*, September, 1890, there is an exceedingly interesting article by Suarez de Mendoza upon the curious subject of color perceptions associated with sound, which has been spoken of editorially in the *REPORTER*, January 28, 1888, and November 16, 1889. His communication is an abstract of a more complete work which is to be published very soon. He discusses principally what he calls false or pseudo-sensations

of color sound, of which he gives a number of illustrations from his own observation. In concluding, he discusses the reason for the various sensorial associations of this kind. Some authors have tried to discover it in the relations of location of the sensorial centres of the brain and of anastomoses between the nervous fibres or in the reciprocal vibrations of their cells. If we accept the theory of anastomoses, it will be necessary to admit that the brain-cells, as well as the sensorial centres, have anastomoses, which in most persons are rudimentary, but in particular persons are well developed, either spontaneously or as a result of special cultivation. It is possible that secondary sensations may be produced by a reflex irritation action through the sensitive branches of the pneumogastric nerve, as seems to be indicated by experiments made five years ago by Urbantschitsch.

These different theories do not thoroughly satisfy Dr. Mendoza, and until some more complete explanation is suggested, he prefers to attribute the phenomena which he has studied to an association of ideas—conscious or unconscious—dating from childhood. In this category, he would place the occurrence of ideas of color connected with days of the week and periods of history. Some of these experiences he is disposed to attribute to some peculiar psychic operation, the intimate nature of which has not been discovered.

RABIES OR HYDROPHOBIA.

At the last meeting of the Neurological Section of the New York Academy of Medicine, a very interesting discussion took place on the subject of rabies or hydrophobia. This discussion is published in the department of "Periscope" in this number of the *REPORTER*, and will, no doubt, prove instructive to its readers. In commenting upon it, it must be said that the moderate tone of most of those who took part in the discussion, as reported, must

be gratifying to all who desire that right views shall be reached in so important a matter.

Dr. Ernst, of Boston, spoke of the "unerring precision" in the results obtained by the inoculation with cord emulsion under the dura-mater of the healthy rabbit. Those who are familiar with the facts of Pasteur's experiments and the reported results of Dr. Ernst's own experiments, will probably think this expression is too strong. The term "unerring precision" can hardly be applied with propriety to results which so often vary from a standard which Pasteur has repeatedly declared to be infallible.

It is not very likely that those who hold positively to the specific theory of hydrophobia, and those who do not believe this theory, will be of one mind in the near future; but temperate discussions of the subject must lead to improvement in knowledge in regard to it, and ultimately, we may trust, to the general acceptance of accurate and trustworthy beliefs.

DR. BARTHOLOW AND THE JEFFERSON MEDICAL COLLEGE.

On October 27, the Trustees of the Jefferson Medical College declared vacant the Chair of Materia Medica, General Therapeutics and Hygiene, which for eleven years past has been occupied by Prof. Roberts Bartholow.

This is the culmination of a long and somewhat painful process, during which it has been openly stated in the newspapers and elsewhere that Dr. Bartholow was suffering with impairment of his mental faculties. Some weeks ago the Trustees of the Jefferson Medical College gave Dr. Bartholow an opportunity to resign his chair, or to take a leave of absence for about six months, in order that he might see if it were possible to recuperate sufficiently to resume his professional duties. This opportunity Dr. Bartholow declined to accept, asserting that it was a reflection upon his mental and physical condition, and that he was entirely com-

petent to continue to discharge his professional duties.

At one time the students of the College took such a view of the case that they held a meeting and adopted resolutions, praising Dr. Bartholow very highly, and requesting that the trustees should recognize his ability as a professor and continue him in the chair of Therapeutics. Since then, we understand, the students have recognized the wisdom of the action of the Board of Trustees and are quite in accord with it.

It is to be hoped that—notwithstanding he is so reluctant to accept it—the opportunity for rest, which will be afforded to Dr. Bartholow, may be utilized to the establishment of his health, and that the Jefferson College may not suffer in any way by his removal from the Faculty. Already a number of candidates for this very desirable position have appeared in the field, and no doubt others will be heard from before long.

BOOK REVIEWS.

[Any book reviewed in these columns may be obtained upon receipt of price, from the office of the REPORTER.]

A MANUAL OF ANATOMY FOR SENIOR STUDENTS. BY EDMUND OWEN, M. B., F. R. C. S., Surgeon to St. Mary's Hospital, London, etc. With numerous illustrations. Small 8vo, pp. viii, 266. London: Longmans, Green & Co., 1890. Price, \$3.50.

The author of this excellent book states in his preface that the present volume is the outcome of his desire to leave a permanent record of his work as Professor of Anatomy at St. Mary's Hospital Medical School, from which position he has recently retired after a service of twelve years. One's first thought on seeing a new book on Anatomy is, what excuse can there be for its publication? There has been less progress in this science than in most others, because there has been less room for it. What is found in certain regions of the body is a matter of fact, is at all times capable of proof or disproof. In this respect anatomy differs from physiology, in which the functions of the parts are to a degree matters of inference and conjecture. But, notwithstanding the existence of many excellent books on anatomy, the present one is not superfluous, but it is just what many advanced students need in order that they may profit by their lectures upon surgery and by their practical work in hospital wards, both medical and surgical. The author has designed to give the senior student who has left the dissecting-room a manual which shall supply him with such anatomical information, free from wearisome detail, as is essential for successful and intelligent work in the medical and surgical wards, and in the special departments of a hospital. Thus we find,

under a description of the pleura, an account of pleurisy, hydrothorax, empyema, and pneumothorax, with brief statement of the essential points in physical diagnosis, and directions as to tapping the chest. The student is taught how to mark the limits of the lungs, liver and heart, and how to conduct a physical examination of the chest. So, under an account of the spinal cord, the various lesions and their physical characteristics are indicated. In this way there is brought home to the student in an unmistakable way the close connection existing between anatomy and the diagnostic part of clinical medicine. Every student will do well to read certain parts of the book before presenting himself for examination in physical diagnosis. We cordially recommend it, and feel that Mr. Owen has done a real service in writing it.

DUST AND ITS DANGERS. BY T. MITCHELL PRUDDEN, M. D. 16mo, pp. 111. New York & London: G. P. Putnam's Sons, 1890. Price, seventy-five cents.

Dr. Prudden means by dust, the fine particles of earth and other matters which float in the air or are readily raised and wafted by it, but especially the finest dust, which is visible only when illuminated by a sunbeam. This dust, he says, consists of fine vegetable and animal fibres, such as cotton or wool, and of a great variety of micro-organisms, either single or in masses. He aims to point out the sources of these germs and their general behavior, to show the differences between in-door and out-door conditions, and, finally, to suggest measures by which pure, wholesome air can be obtained. The disease to which he gives especial attention is—as might be expected just at this time—tuberculosis. This he believes is spread by inhaling tubercle bacilli in the dust of the air, the bacilli getting into the air through the drying and pulverizing of the expectorations of consumptive patients. To prevent this source of infection, he adopts and repeats the recommendation of Cornet—that the sputum of phthisical patients should be collected in cups and burned, and should on no account be received upon fabrics or deposited upon the ground or in ordinary cuspidors.

Those who may be disposed to differ from Dr. Prudden in his conclusion that the tubercle bacillus in the air is such a fruitful cause of consumption, will yet endorse everything he says regarding the simple furnishing of living-rooms, and the recommendation that they should be swept with the windows wide open, and then when the dust has had time to settle, "dusted" by wiping the floors and furniture with mops and moist cloths. This is cleanliness, and cleanliness is the most effective precaution against all septic diseases, medical or surgical.

The book is for laymen, and intelligent laymen will read it; but, unfortunately, its usefulness is necessarily limited by the fact that those who need its instruction most, rarely read anything but a newspaper.

LITERARY NOTES.

—The November number of *The Sanitarian* will begin the publication of the "Transactions of the American Climatological Association," held at Denver, Col., September 2-4, 1890. New subscribers for *The Sanitarian* for 1891, sending their subscriptions before the 15th of November, will be supplied with the November and December numbers gratis. The editor and publisher is Dr. A. N. Bell, Brooklyn, N. Y.

CORRESPONDENCE.

Treatment of Measles.

TO THE EDITOR.

Sir: Noticing that Dr. Hiram Corson referred to your Editorial on Measles, I am induced to write this; for I look upon him as one of the most sensible physicians the world has produced. On reading your Editorial immediately after it appeared, I thought it was strange you should advise such treatment in measles.

Like Dr. Corson, I want my patients kept comfortably cool, in a cool airy room, and to have all the cold water, butter-milk and lemonade they can drink. This is the sum and substance of my treatment in a simple case of measles. When complications appear (which is very rare, when the above course is pursued), of course the proper remedies must be added. Complications I have generally found result from giving hot drinks and keeping the patient too hot.

What a pity that such men as Dr. Hiram Corson could not live to be a thousand years old. The world has too few of them. It is seldom we have the opportunity of reading after men with such good, hard, common sense.

Yours truly,

L. L. SILVERTHORN.

Charleston, Ill.

QUESTIONS AND ANSWERS.

[In this department will be published questions on any medical subject by readers of the *REPORTER*, and answers by the Editor or by other readers.]

Esmarch's Painless Cancer Powder.

DR. JOHN J. TAYLOR, of Memphis, writes:

Will you be so kind as to give me the formula of Esmarch's Painless Cancer Powder?

[Professor Esmarch gave the formula of a powder which he said was exceedingly efficient, and yet painless, in a paper read before the Sixth German Surgical Congress, which was published in the 6th volume of the *Verhandlungen der Deutschen Gesellschaft für Chirurgie*, Berlin, 1877. The formula is on page 208 and is as follows:

R	Acidi arseniosi	
	Morphiæ muriatis	aa 0.25
	Hydrargyri chloridi mitis	2.00
	Gummi arabici pulveris	12.00

This formula would be represented by the following:

R	Arsenious acid	10 grains
	Muriate of morphia	10 "
	Calomel	80 "
	Powdered gum arabic	1 ounce.]

Dr. Shakespeare's Report on Cholera.

DR. D. W. C. LAVERTY, of Middletown, Pa., asks "Has Dr. Shakespeare's report to the Government on Asiatic Cholera ever been printed and distributed by that office?"

[Dr. Shakespeare's report has not yet been issued by the Government. Inquiry of Dr. Shakespeare as to when it will come out, has elicited the following under date of October 19: "I am now reading the proof of the last chapter of my Report and expect to finish it this week. The Report will make a volume of 900 pages quarto."]

NOTES AND COMMENTS.

Excision of Twenty-six Inches of the Ileum.

In the *Occidental Medical Times*, September, 1890, Dr. J. S. Wintermute, of Tacoma, Wash., reports the case of a man 21 years old, who, on October 5, received a wound from the bullet of a 44-caliber revolver. The bullet entered the back about one and a half inches to the left of the spine, struck the transverse process of the second lumbar vertebra, passed through the abdominal cavity, the anterior abdominal muscles, and finally lodged under the skin in the superficial fascia, about two inches to the left of the umbilicus. Dr. Wintermute first saw the patient shortly before midnight, and about an hour after the receipt of the described injury, when he was in a condition of nervous collapse, and vomiting blood freely. Owing to the absolute want of the necessary operating facilities under which to operate immediately, he was made comfortable for the remainder of that night.

Early the succeeding morning, at about nine o'clock, assisted by Dr. John F. Beardsley, Dr. Wintermute first removed the bullet, and then proceeded, under antiseptic precautions, to perform median laparotomy. Upon entering the abdominal cavity, a large amount of clotted blood, undigested beans, and grapes in their entirety, with chylous material, were met with. The ileum was

found to have been punctured by the bullet seven times in twenty-six inches of its length. In two of these instances the ball had completely severed the caliber of the intestine. So mutilated did this portion of the intestine appear when exposed, that it was immediately decided to amputate it. The mesentery was first ligated with a series of carbolized catgut ligatures, and then divided between the point of ligation and the margin of the gut. After the gut was removed, the upper incised end was carefully placed within the lower, and united with five closely placed interrupted catgut sutures, as suggested by Jobert. The abdominal cavity was then thoroughly sluiced out with hot water, and the abdominal wound sutured and antiseptically dressed. Little blood was lost considering the gravity of the operation, and the patient rallied fairly well after its termination. At five o'clock the same evening he seemed to be suffering little or no pain; however his case was practically a hopeless one, and even under the administration of stimulants he gradually failed, dying at about nine o'clock the evening of operation.

An interesting point in the foregoing case was the fact that so many punctures of the intestinal wall were made in so short a length of the intestinal tract. The entire tract was carefully examined, yet in no place was it injured except within the twenty-six inches excised; even the mesentery remained intact, except at one point, where the bullet had penetrated it at the margin of the gut, admitting it within the excised portion. An earlier operation would undoubtedly have afforded the patient greater opportunity of recovery. His loss of blood through hemorrhage into the abdominal cavity, and by vomiting, prior to the time set for the operation, would not have been so great. The nervous shock which he was suffering from after receiving the wound would probably not have been materially augmented, and greater economy of his rapidly failing strength would have been possible under immediate surgical interference.

The Age of Puberty of Indian Girls.

Dr. A. B. Holder, of Memphis, Tenn., says in the *American Journal of Obstetrics*, October, 1890, that the age of puberty among Indians it is not easy to learn, since it is the custom in most tribes for the girls to marry before the menses appear. A

curious result of this custom came under his observation while in medical charge of a tribe in the Northwest. Since the girl menstruates after marriage and its attendant pleasures, the idea prevails in the tribes that the menstrual flow is the result of sexual intercourse. In two instances Indian men came to me with the complaint that their daughters, in the boarding-school at the Agency, had been seduced, as their menses had appeared! Girls in the camp will conceal and deny the flow if it occurs before they have been sold in marriage.

It is presumable that the early marriage and consequent sexual excitement, with the entire absence of modesty in Indian thought and conversation, would tend to cause precocious menstruation, and facts establish this impression. Even in the girls who are in school till after puberty menstruation occurs earlier than among white girls in the same latitude.

In St. Xavier Mission School, on the Crow Reservation, Montana, containing forty Indian girls, there are none above twelve years of age who do not menstruate. The St. Ignatius Mission School, Flathead Reservation, Montana, contains three to four hundred Indian children, received into the school so young that the ages of the girls can be learned with considerable accuracy. The sister-superior of that institution says that "in general the Indian girls begin to menstruate younger than the white girls, and those who at the age of fourteen have not yet their menses generally die of consumption."

Dr. Holder's most accurate observations were made at an Agency school which was under his personal supervision. Concerning ten girls in it he was able to fix positively the ages at which the menses first appeared. These girls were received into the school when quite young, and the record of their ages made at the time is almost certainly correct. Three are half-breeds, seven full-blood Crow Indians. They menstruated as follows: One at 14½ years, one at 14 years, two at 13 years, three at 12 years, two at 11 years, one at 10¾ years. The two at 13 and one at 12 are not yet quite regular. The one at 10¾ has menstruated four times at proper intervals.

From so few cases it is of course impossible to make reliable deductions. The average for these ten girls is 12.91 years, while, according to the only American statistics (Emmet's), in the white race the average is 14.23 years. This early average

agrees with Dr. Holder's opinion, drawn from other sources and expressed above. It is also in accord with the opinion of such physicians in charge of Indians as have given him their views.

The duration of menstruation in the case of the above school girls was usually two days, rarely exceeding three. They have been remarkably free from pain or other unpleasant symptoms on the establishment of the function or at its recurrences.

Hot Water in the Treatment of Acne.

Dr. Frederick J. Leviser, Dermatologist to St. Bartholomew's and Randall's Island Hospitals, New York, says in the *Medical Record*, September 13, 1890, hot water applied twice or three times a day for about five minutes is one of the most reliable local remedies which we possess for the treatment of acne of the face. To derive the full benefit from the effects of this simple remedy it is necessary that the physician, and through him the patient, should be thoroughly familiar with the proper method of using it. The water should be very hot, so hot, in fact, that it can hardly be borne by the patient. Care should, of course, be taken not to scald the face, but if the water is warm only, instead of really hot, more harm than good will be produced. The face should not be washed, rubbed or bathed with the hot water, as is so frequently done, but a small portion of the diseased area of the face should be soaked with it for a very short time only. The heat of the water, which is brought in contact with the skin, is deeply dissipated for a moment and causes an intense but transitory local hyperemia. This is exactly what we want to produce. If the hot water is allowed to act on the skin for too long a time, say more than a minute, or if the application is renewed at too short intervals, an acute inflammatory condition is added to the disease already existing. It is sufficient to go over the affected parts twice in one sitting and the entire operation need not take more than three to five minutes. A handkerchief or a piece of soft linen is commonly used to convey the hot water to the face. I use for this purpose a very simple glass holder which I have constructed. Since this little instrument, which I have named "Thermophor," has proved itself very useful and convenient I shall take the liberty of shortly describing it here.

The instrument consists of a handle and a head. The latter is nothing else but an ordinary short test-tube. About half of this tube is filled with cold water. A thick pad of absorbent cotton is tightly stuffed into the opening of the tube. The holder is then reversed and the water inside the tube allowed to soak the cotton. The latter is thus kept in place by dint of the weight and adhesion of the water. During these few preparatory steps water has been brought to the boiling-point in a small vessel on a stove or over a gas or alcohol lamp. The holder with the cotton is dipped into the hot water, left in it for a few minutes, and then carefully carried to the affected portion of the face.

The advantages of the "thermophor" are manifold. It saves the patient's hands from coming in contact with the hot water, it renders possible the use of water of very high temperature and makes it easy to confine the action of the heat to a limited portion of the diseased area. Besides it is clean, handy and cheap.

Not only plain, but also medicated hot water may be used in the manner as described above. Hot solutions of boric acid, bicarbonate of soda, salicylic acid, resorcin, etc., are all very serviceable. I have had excellent results from the use of the so-called "lotio alba" to which resorcin is added according to the following formula.

R Zinci sulphatis.
Potassii sulphitis aa ʒi
Aque rose f ʒiv
Dissolve each of the ingredients in half the water, mix and add
Resorcini ʒi
Sig. Lotion. Shake well.

This lotion is to be used hot at night, and cold in the morning.

Treatment of Cholera.

The chief medical officer of the Spanish army has published in the *Revista de Sanidad Militar* an article on cholera, in which he indicates the treatment that is, in his opinion, most satisfactory. When cholera is epidemic all cases of diarrhoea ought to be attended to, and treated by means of large doses of subnitrate of bismuth. He would also give thirty grains or more of subacetate of lead in four ounces of distilled or boiled water as an enema after each loose evacuation. In cholera no food should be given, but plenty

of acidulated water (without sugar) and ice. Enemas of seltzer water and champagne are useful. Soup, milk, jelly, and toast-water are worse than useless as long as the kidneys do not act, as they only serve as culture liquids for the pathogenic microbe in the intestines. Bismuth is useful in helping the feces to form more or less solid masses together with the septic products of the small intestine, and so retarding absorption in the large intestine. If the stage of asphyxia or general infection comes on he advises recourse, if possible, to oxygen inhalation. Failing these, or as additional methods of medication, rectal etherization and a dose of antipyrin, administered either hypodermically or per rectum, may be tried. Other means, such as rubbing, hot-water bottles, hypodermic injections of ether, alcohol, caffeine—or morphia when there is vomiting—though useful, must be considered entirely subordinate to those first mentioned, of which the writer regards the inhalation of oxygen as the most valuable. In order to treat the kidney affection, which is so frequently the cause of death, warm baths and poultices must be used, and when cerebral symptoms develop ice should be applied to the head, and leeches to the mastoid processes.—*Lancet*, September 13, 1890.

Mushroom Poisoning.

In an excellent article on mushrooms, in the *Boston Medical and Surgical Journal*, September 18, 1890, Dr. Edward J. Foster, says: From a study of the cases where the symptoms developed after eight or twelve hours, more than a very small amount of the fungus had been taken, the treatment by the usual methods of giving emetics, cathartics, astringents or stimulants, combined or alone, has, I find, been universally unsuccessful; but when the chief reliance has been placed upon atropia, the results have been most brilliant. It is true that I have the records of fatal cases where this drug had been given, but in such small doses ($\frac{1}{16}$ to $\frac{1}{8}$ grain), that I was not surprised at the result.

The symptoms indicate a poison whose action is like that of morphia, and if it is to be combated successfully, the same treatment as used for an overdose of that drug must be given, namely, atropia in full doses, one-third of a grain at a time, for instance. One grain of atropia has been given in opium poisoning with success. I have

treated at the Boston City Hospital, and reported, a case of poisoning by morphia, where I gave three-fourths of a grain of atropia—one-half grain at once, and one-quarter grain in ten minutes—and saved the patient. Wharton and Stillé state that while one-sixth grain of atropia has caused alarming symptoms, death has not been caused by a grain; therefore, I think that when we have present as powerful a poison as that found in the mushroom, we had best use the antidote in moderately large doses.

The treatment by atropia is based upon the perfect antagonism which exists between this drug and the poison of the Amanitas, which has been separated by Prof. Schmiedelberg, and named muscarin. The poison has been separated by others and variously named, according to the variety from which it was obtained. The merest trace of this alkaloid will arrest the pulsation of a frog's heart; and even after four hours Lauder Brunton states he has caused it to pulsate again by a minute quantity of atropia being brought in contact with the organ. This and other experiments showing the antagonism between these two poisons have been repeated by Prof. H. P. Bowditch at the Harvard Medical School. It acts as well upon mammals as upon frogs. My friend, Dr. F. H. Williams, Assistant Professor of Therapeutics, tells me that he has recently brought the subject of mushroom poisoning and its proper treatment to the attention of his students in the Harvard Medical School.

In the treatment of such cases, general principles should only guide us to remove any of the poison remaining in the alimentary canal, by emetics and purgatives, to support the failing powers by proper stimulation. But the treatment should not stop here; our reliance must be upon an antidote; the poison already absorbed must be counteracted, an antidote must be used; and that antidote, I repeat, is atropia.

Infection with Milk from Tuberculous Cows.

Dr. Karl Hirschberger has made, at the request of Dr. Bollinger, a series of experiments in the Pathological Institute at Munich on the inoculation of animals with milk from cows in various stages of tuberculosis. He attempts to answer the following questions:—1. Do tuberculous cows fre-

quently give infectious milk, or is their milk only exceptionally infectious? 2. In which forms of tuberculosis is the milk infectious—in localized or only in general tuberculosis? He made twenty experiments, and calls attention to the fact that inoculation alone can give decisive results, because it is very difficult to observe tubercle bacilli microscopically in the milk, and impossible to discover their spores. On the strength of his experiments he states that the danger of infection from the milk of tuberculous cows does not only exist, but is very great, being found in 55 per cent. of all cases examined. The more the tuberculosis has spread the greater is the danger; but even in mild cases of localized tuberculosis the milk is, he considers, more or less infectious.—*Lancet*, August 30, 1890.

NEWS.

—Dr. Frederick A. Packard has removed to 131 South Fifteenth street, Philadelphia.

—A report of a burial alive comes from Pittsburgh, Pa., under date of October 22.

—Prof. Theophilus delivered the annual address at Lafayette College, on October 22, "Founder's Day."

—Dr. J. B. Mattison, of Brooklyn, delivered, by invitation of the Directors, an address on the Renal Status of Opium Habitues, before the Philadelphia County Medical Society, on October 22.

—It is reported that a nurse at Bellevue Hospital, on October 21, killed a patient by striking him in the face with his fist. The patient was suffering with delirium tremens, and had spit in the nurse's face.

—King William, of Holland, has recovered his physical strength almost entirely and looks now as though he might live years, but his mental faculties are shattered. He has, it is said, forgotten his name, and is not able either to read or write.

—The friends of Dr. Francis L. Haynes, formerly of Philadelphia and now of Los Angeles, California, have been much annoyed by newspaper reports which contained insinuations in regard to his relations to a companion who was killed, it is said, by Indians in Arizona.

—On October 21, Dr. John B. Deaver at St. Agnes' Hospital, Philadelphia, successfully amputated the left hip of a young woman by what is known as the "Wyeth bloodless operation." Though the operation required almost three-quarters of an hour, it is said

that only about an ounce and a half of blood was lost.

—The County Dental Society of Philadelphia has adopted a protest against dentists being classified by the Census Bureau with manufacturers, and instructed its members to decline "to attempt the impossibility of making any returns" upon blanks under such classification.

—The American Humane Society offers two prizes, each of \$250, for the best essays on the question whether vivisection should be permitted in the interests of humanity, and, if so, with what restrictions. Essays should be sent to George T. Angell, No. 19 Milk street, Boston, before January.

—The opening exercises of the new Keokuk Medical College were held September 25. Many of the members of the faculty were connected with the College of Physicians and Surgeons of Keokuk until the close of last term, when they withdrew and founded the Keokuk Medical College.

—The Superintendent of Police of Philadelphia has ordered that hereafter when an insane person has been brought to the station and the police surgeon was notified of the fact, and he sends word that he will be there at a certain hour, the police shall find out, if possible, whether the patient has any relatives or friends, and, if so, shall send for them and have them present at the station house to meet the Police Surgeon when he arrives.

—It is reported that the United States Marine Hospital Service will recommend the plan of having a systematic examination of all persons intending to immigrate to this country. This examination would be made by physicians attached to the United States consulates. It is to be hoped that some such measure may be attempted. It is cheaper to keep out the sick, criminal and defective classes, including anarchists, than to support them here or send them back.

—Dr. Clarence Thwing, of Brooklyn, has accepted an invitation to establish one or more missionary hospitals in Alaska, beginning at Sitka. He was graduated about three years ago, since which time he has been engaged in special courses that will fit him for his new and responsible berth. His father, also a physician and a clergyman as well, has become known through his advocacy of the establishment at Hong Kong of an asylum for the insane, which, if he succeeds, will be the first of its kind on Chinese soil.